PENDING CLAIMS AS AMENDED

Please amend the claims as follows:

1. (Currently Amended) A base station that adaptively allocates at least one resource between a traffic signal and a dedicated reference signal, comprising:

means for receiving a quality metric from a remote station, wherein the quality metric indicates the quality of a signal transmitted from the base station in a common reference signal and received by the remote station;

means for using the quality metric to adaptively allocate a resource between the traffic signal and the dedicated reference signal to maximize the capacity for transmitting the traffic signal to the remote station; and

means for transmitting the dedicated reference signal and the traffic signal to the remote station,

wherein the received common reference signal and the received dedicated reference signal are used to train a receiver at the remote station.

2. (Original) The base station of claim 1, wherein the resource comprises power.

3. (Original) The base station of claim 1, wherein the resource comprises a time slot in a time-division multiplexed signal.

4. (Original) The base station of claim 1, further comprising means for transmitting a common reference signal to the remote station and to a plurality of other remote stations.

5. (Original) The base station of claim 4, wherein the quality metric comprises a signal-to-interference-and-noise ratio of the common reference signal received at the remote station.

6. (Original) The base station of claim 4, wherein the quality metric comprises a symbol error rate of the common reference signal received at the remote station.

7. (Original) The base station of claim 1, further comprising means for transmitting a parameter e_x to the remote station, wherein the parameter e_x represents the portion of the resource allocated to the dedicated reference signal.

8. (Currently Amended) The base station of claim 1, further comprising means for receiving a parameter θ from the remote station,

wherein the parameter $\theta \equiv \frac{L-1}{n}$ ~~describes a type of training algorithm used to train a receiver at the remote station to maximize a signal-to-interference-and-noise ratio (SINR) during periods of data transmission~~.

9. (Original) The base station of claim 1, further comprising:

means for computing the coefficients of an L-tap linear equalizer using a least squares estimation method over n chips of the common reference signal; and

means for receiving a parameter $\frac{L-1}{n}$ from the remote station.

10. (Original) The base station of claim 1, further comprising:

means for computing the coefficients of an L-tap linear equalizer using a least squares estimation method over n chips of the common reference signal; and

means for agreeing with the remote station about a fixed value for the parameter $\frac{L-1}{n}$.

11. (Currently Amended) A remote station that adaptively allocates at least one resource between a traffic signal and a dedicated reference signal, comprising:

means for receiving a common reference signal, a dedicated reference signal, and a traffic signal from a base station;

means for determining a quality metric of the received common reference signal;

means for transmitting the quality metric to the base station, wherein the base station uses the quality metric to adaptively allocate a resource between the dedicated reference signal and the traffic signal to maximize the capacity for transmitting the traffic signal to the remote station; and

means for using the received common reference signal and the received dedicated reference signal to train a receiver at the remote station.

12. (Original) The remote station of claim 11, wherein the quality metric comprises a signal-to-interference-and-noise ratio of the received common reference signal.

13. (Original) The remote station of claim 11, wherein the quality metric comprises a symbol error rate of the received common reference signal.

14. (Original) The remote station of claim 11, further comprising means for receiving a parameter e_x from the base station, wherein the parameter e_x represents the portion of the resource allocated to the dedicated reference signal.

15. (Currently Amended) The remote station of claim 11, further comprising means for transmitting a parameter θ to the base station,

wherein the parameter $\theta \equiv \frac{L-1}{n}$ ~~describes a type of training algorithm used to train the receiver at the remote station to maximize a signal-to-interference-and-noise ratio (SINR) during periods of data transmission~~.

16. (Original) The remote station of claim 11, further comprising:

means for computing the coefficients of an L-tap linear equalizer using a least squares estimation method over n chips of the common reference signal; and

means for transmitting a parameter $\frac{L-1}{n}$ to the base station.

17. (Original) The remote station of claim 11, further comprising:

means for computing the coefficients of an L-tap linear equalizer using a least squares estimation method over n chips of the common reference signal; and

means for agreeing with the base station about a fixed value for the parameter $\frac{L-1}{n}$.

18. (Currently Amended) A base station that adaptively allocates at least one resource between a traffic signal and a dedicated reference signal, comprising:

a receiver that receives a quality metric from a remote station, wherein the quality metric indicates the quality of a signal transmitted from the base station in a common reference signal and received by the remote station;

a resource allocation component that uses the quality metric to adaptively allocate a resource between the traffic signal and the dedicated reference signal to maximize the capacity for transmitting the traffic signal to the remote station; and

a transmitter that transmits the traffic signal and the dedicated reference signal to the remote station,

wherein the received common reference signal and the received dedicated reference signal are used to train a receiver at the remote station.

19. (Original) The base station of claim 18, wherein the resource comprises power.

20. (Original) The base station of claim 18, wherein the resource comprises a time slot in a time-division multiplexed signal.

21. (Original) The base station of claim 18, wherein the transmitter is further configured to transmit a common reference signal to the remote station and to a plurality of other remote stations.

22. (Original) The base station of claim 21, wherein the quality metric comprises a signal-to-interference-and-noise ratio of the common reference signal received at the remote station.

23. (Original) The base station of claim 21, wherein the quality metric comprises a symbol error rate of the common reference signal received at the remote station.

24. (Original) The base station of claim 18, wherein the transmitter also transmits a parameter e_x to the remote station, wherein the parameter e_x represents the portion of the resource allocated to the dedicated reference signal.

25. (Currently Amended) The base station of claim 18, wherein the receiver also receives a parameter θ from the remote station, and

wherein the parameter $\theta \equiv \frac{L-1}{n}$ ~~describes a type of training algorithm used to train a receiver at the remote station to maximize a signal-to-interference-and-noise ratio (SINR) during periods of data transmission~~.

26. (Original) The base station of claim 18, wherein a training component at the remote station employs a least squares estimation method over n chips of the common reference signal to compute the coefficients of an L-tap linear equalizer, and wherein the receiver also receives a parameter $\frac{L-1}{n}$ from the remote station.

27. (Original) The base station of claim 18, wherein a training component at the remote station employs a least squares estimation method over n chips of the common reference signal to compute the coefficients of an L-tap linear equalizer, and wherein the base station is configured to agree with the remote station about a fixed value for the parameter $\frac{L-1}{n}$.

28. (Currently Amended) A remote station configured to facilitate adaptive allocation of at least one resource between a traffic signal and a dedicated reference signal, the remote station comprising:

a receiver that receives a common reference signal, a dedicated reference signal, and a traffic signal from a base station;

a signal quality measurement component that determines a quality metric of the received common reference signal;

a transmitter that transmits the quality metric to the base station, wherein the base station uses the quality metric to adaptively allocate a resource between the dedicated reference signal and the traffic signal to maximize the capacity to transmit the traffic signal to the remote station; and

a training component that uses the received common reference signal and the received dedicated reference signal to train the receiver.

29. (Original) The remote station of claim 28, wherein the quality metric comprises a signal-to-interference-and-noise ratio of the received common reference signal.

30. (Original) The remote station of claim 28, wherein the quality metric comprises a symbol error rate of the received common reference signal.

31. (Original) The remote station of claim 28, wherein the receiver also receives a parameter e_x from the base station, wherein the parameter e_x represents the portion of the resource allocated to the dedicated reference signal.

32. (Currently Amended) The remote station of claim 28, wherein the transmitter also transmits a parameter θ to the base station, and

wherein the parameter $\theta \equiv \frac{L-1}{n}$ ~~describes a type of training algorithm used by the training component to train the receiver at the remote station to maximize a signal-to-interference-and-noise ratio (SINR) during periods of data transmission~~.

33. (Original) The remote station of claim 28, wherein the training component uses a least squares estimation method over n chips of the common reference signal to compute the

coefficients of an L-tap linear equalizer, and wherein the transmitter also transmits a parameter $\frac{L-1}{n}$ to the remote station.

34. (Original) The remote station of claim 28, wherein the training component uses a least squares estimation method over n chips of the common reference signal to compute the coefficients of an L-tap linear equalizer, and wherein the remote station is configured to agree with the base station about a fixed value for the parameter $\frac{L-1}{n}$.

35. (Currently Amended) In a base station, a method for adaptively allocating at least one resource between a traffic signal and a dedicated reference signal, comprising:

receiving a quality metric from a remote station, wherein the quality metric indicates the quality of a signal transmitted from the base station in a common reference signal and received by the remote station;

using the quality metric to adaptively allocate a resource between the traffic signal and the dedicated reference signal to maximize the capacity for transmitting the traffic signal to the remote station; and

transmitting the dedicated reference signal and the traffic signal to the remote station,

wherein the received common reference signal and the received dedicated reference signal are used to train a receiver at the remote station.

36. (Currently Amended) In a remote station, a method for facilitating adaptive allocation of at least one resource between a traffic signal and a dedicated reference signal, comprising:

receiving a common reference signal, a dedicated reference signal, and a traffic signal from a base station;

determining a quality metric of the received common reference signal;

transmitting the quality metric to the base station, wherein the base station uses the quality metric to adaptively allocate a resource between the dedicated reference signal and the

traffic signal to maximize the capacity for transmitting the traffic signal to the remote station; and

using the received common reference signal and the received dedicated reference signal to train a receiver at the remote station.